DOCUMENT RESUME

ED 291 386 IR 052 284

TITLE	Laser Disk Systems in Libraries. Summary of Proceedings of FLICC/FEDLINK Institute (Washington, D.C., May 11, 1987).
INSTITUTION	Federal Library and Information Center Committee, Washington, DC. Federal Library and Information Network.
PUB DATE	11 May 87
NOTE	12p.
PUB TYPE	Collected Works - Conference Proceedings (021) -- Reports - Descriptive (141)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	Academic Libraries; Databases; Elementary Secondary Education; Evaluation Criteria; Higher Education; *Information Retrieval; Information Services; Law Libraries; *Optical Data Disks; Public Libraries; School Libraries; State of the Art Reviews; *Technological Advancement; *User Satisfaction (Information)
IDENTIFIERS	Business Research; Library of Congress

ABSTRACT

This document summarizes the nine presentations made at an institute on laser disk systems in libraries held at the Library of Congress in May 1987. The first speaker, Linda Helgerson, discussed advances in CD-ROM technology as well as its advantages and disadvantages. Judy McQueen focused primarily on the disadvantages of CD-ROM and urged caution in adopting the new technology. Deborah Bezanson described the implementation and evaluation of patron access to the PsychLit database on CD-ROM in an academic library. Less satisfactory experiences with the use of INFOTRAC by law students and law professionals who had experience with online searching were described by Phil Berwick. Experiences with Books-In-Print Plus (BIP+) were related by Chester Pletzke, who was favorably impressed by the system but found that listings for publishers were not up-to-date. Charles Worsley discussed applications of CD-ROM in school libraries and outlined plans for implementing CD-ROM in a public school district. The costs of CD-ROM systems and problems in dealing with vendors and consultants were discussed by Charles Robinson. Linda Kosmin observed that most producers have been slow to recognize the market potential of scientific and technical libraries for the right products. The final speaker, Michael Halperin, described the advantages of DATEXT as a source of data on individual companies and industries. A list of exhibitors at the institute concludes the report. (CGD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED291386

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☒ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

From: FLICC/FEDLINK
Summary of Proceedings of
May 11, 1987 Institute

Laser Disk Systems in Libraries

James P. Riley, executive director of the Federal Library and Information Center Committee, welcomed nearly 150 librarians and other interested participants to an institute on laser disk systems in libraries, held at the Library of Congress on May 11. He greeted everyone on behalf of FLICC and its operating network FEDLINK, the Metropolitan Washington Library Council, and CAPCON, cosponsors of the seminar.

Dennis Reynolds, executive director of CAPCON, extended CAPCON's welcome and reviewed the recent history of the introduction of technology in libraries. He pointed out that laser disk technology is new and still very unsettled, with various people using different definitions for the same term. Nevertheless, he noted, the era of optical media is unfolding, and the state-of-the-art has reached the point where this seminar can bring together a number of speakers and exhibitors to talk about and demonstrate tangible products that are already in use.

The first speaker, Linda Helgerson, president, Diversified Data Resources, Inc. began her presentation with five statements that express her attitude about CD-ROM. The statements were: "1) Ours is an information-based society, and this in an information age; 2) CD-ROM and other optical media are the most important development since Gutenberg and will revolutionize the publication of information; 3) The only thing we know for sure is that change will occur, and presently we are experiencing a period of upheaval, as far as information is concerned, and as a result of CD-ROM; 4) It is what CD-ROM is going to do to us that is the most significant thing; and 5) You ain't seen nothing yet." Helgerson held up a CD-ROM disk and noted that systems are being developed that will produce them in rolls like newsprintand cut them from the rolls like cookies for less than twenty-five cents each. "This is," she said, "the most efficient, effective mechanism, for delivering massive quantities of information to the end user than has ever existed before. There is no other way you can deliver this amount of information to the person that needs it, other than this format."

IR052284

By the end of 1987, Helgerson continued, there will be twenty plants for producing CD-ROM operating in the United States alone. Already, she pointed out, it is possible to master a disk with 270,000 pages of text and get 100 copies of it for about $2,000. Further, she added, the cost of CD-ROM drives is coming down rapidly and is likely to get below $200 in the near future. Nor has the technology stopped, Helgerson said, within the last few months, full motion video has been added to the capabilities of CD-ROM, so it is now possible to put 60 minutes of audio, 550 megabytes of text, 6,000 page images, 72 minutes of full motion video or any combination of all four on a CD-ROM. She noted that fully approved physical standards will be in place before the end of 1987, and that file format standards are only a matter of time. These standards, she said, make CD-ROM a truly international technology, where a disk made anywhere in the world can be read on any drive made anywhere else in the world.

The biggest problem Helgerson sees at present is improving the software for searching the disk for the needed information. While there are some forty companies with search and retrieval software for the CD-ROM, none appears to be a clear leader. Her company is evaluating various software packages as a part of an undertaking to produce a guide--on CD-ROM, of course--to CD-ROM.

Discussing the probable CD-ROM products of the immediate future, Helgerson identified the first product area as the transfer of data from another format (e.g. paper, microform, online, mainframe storage) to the CD-ROM. The second area will be hybrid products, with part of the information on CD-ROM and part on another storage device, such as a hard disk, on which more frequent updates are stored. A second type of hybrid product is the combination of text and audio, images or video. Another burgeoning area Helgerson identified is niche markets for such things as illustrated catalogs (e.g. Sears, automobile and jet engine maintenance manuals, etc.), mapping data and ZIP code directories. She also anticipates a great deal of bulk shifting of data from mainframes to CD-ROM.

Not a library application, but one that is certainly going to be talked about, Helgerson said, is the plan of Hewlett-Packard and the Ford Motor Company to put a RAM chip on the engine of each car sold. This will record deviations and deficiencies in the engine's performance, and when the car is taken in for service, the chip will be put into a microcomputer with a CD-ROM file of technical data. The system will diagnose the problem and tell the mechanic how to fix it.

Helgerson closed by pointing out to the librarians present that as storers and deliverers of information, they have a new medium to deal with. People will want CD-ROM disks in their homes and offices. She suggested that, to avoid being bypassed, libraries act as distributors and that they inform the publishers of what their clients want.

In sharp contrast to Helgerson, Judy McQueen, vice president for Network Services, Library Systems and Services, Inc., cautioned librarians to think carefully and consider all of the consequences before embracing a new technology. She reminded them of the many unfulfilled promises offered by past technology and assured them that they would have to live in a multi-format environment for the foreseeable future.

The questions librarians must ask themselves, McQueen continued, include how the CD-ROM technology to is be implemented, how it will be made useful for the least expenditure of money, and what it is going to be used for. Cataloging, acquisitions, and user services come to mind, but in each of these applications, CD-ROM has drawbacks.

McQueen pointed out that libraries or library systems that create their own catalogs on CD-ROM are depriving themselves of access to national shared cataloging databases for input assistance, checking quality and obtaining interlibrary loan information. They are also depriving those databases of their input.

CD-ROM may be of assistance in finding what books to order, McQueen noted, but their use in acquisitions will remove the linkage which permits a completed search on an online system to be made an order with a few keystrokes. Searching secondary publications on CD-ROM may be cheaper, but CD-ROM databases are updated much less frequently than those online.

In the area of user reference searching, McQueen cautioned that current CD-ROM systems do not routinely have full keyword capability or boolean operators. Further, they are not particularly user friendly. "It is one thing to have a machine-readable file," she said, "it is another thing to have a machine-readable file that you can shape sufficiently to be able to index and search it."

McQueen acknowledged that we are now in a situation where laser disks are about to become a part of our lives, but noted that new technologies usually take a number of years to settle in. In addition,

there are parts of the country where a telephone would be an innovation in the library. For the immediate future, she said, we are going to have to live with a situation where we have to combine the most recent technology with layers of existing technology and manage them all at the same time.

McQueen closed by suggesting that in adopting new technologies, librarians should consider all of the costs and ramifications, particularly what they are likely to be giving up. New technology, she said, must be applied in a thinking way.

Deborah Bezanson of the Gelman Library, George Washington University, described that library's experience in providing patron access to the PsychLit database on CD-ROM. When the library was approached by the American Psychological Association about becoming a test site for PsychLit, it accepted immediately. The library rearranged its layout to put the CD-ROM work station near the reference desk and the publication, *Psychological Abstracts*, close to the work station.

Since PsychLit was user friendly, not requiring a great deal of mediated assistance, and since users would not have to pay for their mistakes, it was an ideal outreach mechanism. A step-by-step instruction sheet was designed to guide novice users, and a user survey form was designed, Bezanson said, so that the library could get concrete results from the test.

Of the 159 users who completed survey forms, 62 percent rated the system very satisfactory, 26 percent rated it satisfactory, 8 percent rated it somewhat satisfactory, and only 4 percent rated it unsatisfactory. Bezanson noted that in most cases, users who rated the system unsatisfactory were searching for topics unlikely to be found in PsychLit. All but two of the users found PsychLit easier to use than the publication and would recommend it to others, and 62 percent indicated a willingness to pay for its use.

One of the difficulties the library encountered with the CD-ROM, Bezanson said, was that it is a single user system, and users were frustrated at having to wait in line. This was solved by preparing a sign-up sheet with thirty-minute time slots. A user could then sign up for one or two of these slots at a a particular time and avoid waiting in line. Since only 28 percent of the users spent more than half an hour with the system, this worked admirably.

Bezanson found that novice users frequently had difficulty narrowing their searches. This, she said, is because boolean searching is not intuitive. The problem can be dealt with by personal assistance and by class instruction. The faculty has enthusiastically supported such class sessions.

The shortcomings of the system that Bezanson listed are the up-front costs, the slower response time compared to online searching, the necessity of switching from disk to disk for larger files and a fairly large number of equipment breakdowns. On the other hand, she found a greater number of positives. The system is user friendly and permits most users to do a better job of searching without having to pay for their mistakes. It provides multiple access points, boolean logic, and highlighting in the on-screen text of keywords used in the search. The ability of users to print out search results, rather than take laborious notes, is a very strong selling point.

In sum, Bezanson said, the library has greatly increased its outreach, more users have been exposed to computer searching than ever before, and there is increasing computer sophistication on campus. Even the faculty has been converted to machine searching.

A quite different set of experiences was related by Phil Berwick of the Fred O. Dennis Law Library, Georgetown University Law School. The users of the INFOTRAC system in that library are law students, all of whom are required to take training in searching LEXIS and WESTLAW online, and law professionals, who have paid a substantial sum for access to the library.

The system installed at the Dennis Library, Berwick said, is not a stand-alone installation, but three dedicated terminals cabled to a computer. One of these terminals is near the front door of the library, one is on the second floor and the third is in the faculty library. While there was initially a certain amount of difficulty with the furniture and cabling, they have not had to request service on the equipment itself.

The system is obvious in operation, requiring no prior instruction. However, Berwick continued, because of their experience with the online systems, students expect computer systems to provide full text searching with boolean logic, and INFOTRAC does not have this capability. Therefore, when a query produces a long list of hits, there is no way of shortening it.

Further, the committee of the American Association of Law Librarians that worked with the system developer insisted on using Library of Congress subject headings as the main access points for subject search. Students, in particular, are very frustrated by this decision. Additional frustrations, Berwick noted are the merger of the table of cases with the table of statutes, the requirement for exact notation and the lack of subheadings.

Berwick concluded that the CD-ROM system is economical for a large law school needing three work stations, but that it would be a closer call for a standalone situation. The students are very happy because they don't have to write their results, but he added, this can lead to indiscriminate printing and copying. He believes that as soon as some of the software problems are solved, more people will use the system, and it will improve the overall quality of research at Georgetown.

Chester Pletzke of the Health Sciences Learning Resources Center, Uniformed Services University of the Helath Sciences, was impelled to obtain Books In Print Plus (BIP+) on CD-ROM by a desire to avoid having to carry a shopping bag full of publisher "blurbs." He found the disk straightforward and easy to use, with both novice and advanced user routines. There are also a number of access points, including publisher, date, and keyword in title.

Pletzke found that some of the books for which he had publisher "blurbs" were listed in the file, while others were not. He performed a variety of searches to determine the size of the file and the number of titles by year. Although there were listings as far back as 1800 and as far in the future as 1990, real coverage, he said, was essentially 1979 to 1986. The January 1987 issue of BIP+ included far more 1987 projected imprints than did the October 1986 issue; 14,983 to 4,665.

Pletzke was very impressed by the file because there were many items listed that he had not seen elsewhere. However, there were books, about which he had received notice from the publisher, that were not listed. A Bowker representative, whom he asked to explain the omissions, indicated that they were having trouble getting the information from those publishers. A search of the file for imprints of one of the publishers in question revealed that no information had been provided to Bowker since 1985.

Comparing the BIP+ listings with the information he had received from one publisher, Pletzke discovered that between one-quarter and one-half of the items were listed in BIP+. He believes that

people selecting materials should communicate with the publishers, urging them to get the information to Bowker. They should also communicate with Bowker to expedite data entry.

Pletzke's resource center is investigating other CD-ROM products, but has not yet put them out for patron use. He is very pleased with BIP+ and intends to put it out as the first step toward public use of CD-ROM. He hopes for an international books in print on CD-ROM in the not too distant future.

The high technology revolution in school libraries was touched off by the advent of CD-ROM, according to Charles Worsley of the Montgomery County Public Schools. School librarians have been waiting a long time for the technology that would let them embark on using computers in school libraries.

Because school librarians are far down the chain of command, with virtually no money and very little staff, Worsley said, school libraries need an introductory product that is very inexpensive, a standalone, student proof, related to the curriculum in some fashion, and a cheap way to distribute information. The CD-ROM effort began by working through Maryland state offices to get authorization to put some 80,000 titles in a CD-ROM catalog, which would be updated monthly and given state-wide distribution.

With the equipment thus justified, Worsley said, investigation of other large databases has been undertaken. He hopes to have about forty CD-ROM work stations in eleven schools and the beginnings of eleven public access catalogs by October of this year.

Worsley cited a number of problems they have encountered in their efforts. Most programs are written either for very large or very small systems, not for in-between systems like Montgomery County. They are also trying to implement CD-ROM without any real capital, so the selling job is going to be very difficult. While they hope to implement CD-ROM public access catalogs and circulation systems, Worsley continued, they don't dare leave the system open in high schools, because there are some who would delight in "crashing the system."

Worsley's dreams for the future include continued work at the state level to get more pooling of information and local expertise, putting a public access catalog on cable to provide multiple access and finding more money. He feels that they have come a long way with little or no support and that there is real hope that within five to seven years, every school in Montgomery County will have banks of CD-

ROM computers. He also hopes that these will be networked and that over a period of time, CD-ROM will replace conventional reference materials.

Charles Robinson, Baltimore County Public Library, began his discussion on avoiding disaster in dealing with CD-ROM vendors by suggesting that the surest way is not to deal with them at all. He pointed out that library automation has been sold for many years as a way of obtaining better control of library functions and reducing their costs. In many cases, such systems have failed to fulfill their promise.

"CD-ROM and CD-I," Robinson asserted, "are really a whole new ball game, because instead of affecting our internal procedures, they affect our basic product, and you can call that basic product the information appliance. You know them as books. A book is an information appliance, but so are CD-ROM and CD-I, as well." As such, he continued, they will affect not just our procedures, about which nobody outside cares, but a library's provision of information to its patrons.

There are, Robinson noted, two categories of CD-ROM vendors. One is selling a true information appliance. The other makes it possible for a library to publish its own catalog on CD-ROM. There are very few vendors in the latter category, and they are pretty weak. "What we need, from CD-ROM," Robinson said, "is very, very small access to a great many databases, which is not the way for database publishers to make any money."

One of the principal problems is that there is no installed base of machines. There are, compared to typewriters, Robinson observed, very few computers in libraries, and personal computers in the homes -- where the real money is -- have not achieved anything like the penetration of VCRs. At current prices, considering the variety of CD-ROM products that will be available, not many will be sold to libraries.

Robinson advised librarians to wait, observing that the natural conservatism of librarians combined with the irrationality of government appropriations probably made that advice somewhat superfluous. He is convinced that the market is going to force prices down. However, if a library is not going to wait, he suggested that the most critical rule is to deal with somebody who can be trusted.

Do not hire a consultant, Robinson cautioned, since most of them know very little more about CD-ROM than the librarian hiring them. Similarly, the preparation of specifications for a competitive bid is dangerous, because the technology is changing so fast and prices are plummeting. Once you have found a

trustworthy vendor, he added, the use of a service or maintenance type contract might be a way of avoiding high capital investment.

CD-ROM, Robinson pointed out, is, like the book, a transportable medium, but much more dense and much more costly. Further, he added, transportable mass storage has not reached its zenith with CD-ROM. CD-ROM, after all, only provides 550 megabytes of storage. It may be that, in the not too distant future, something the size of a fingernail will hold 1,000 megabytes -- or even gigabytes -- with a book size device for reading. Such a development, he concluded, might put libraries out of business entirely.

In assessing the availability of optical media products for scientific and technical library needs, Linda Kosmin of the R.E. Gibson Library, Johns Hopkins University Applied Physics Laboratory, noted that most of the producers have been slow to recognize that such libraries are ready, willing and even able to buy as soon as the right products are made available. She urged scientific and technical librarians to take the initiative in expressing their needs and to respond to inquiries by vendors with thoughtfully stated expectations.

Kosmin observed that the majority of CD-ROM products currently available are of interest mainly to public and general academic libraries. Only a handful of products are targeted to scientific audiences, she said, and of these, hardly any address the core of high technology library interests. From this sparse collection, she listed about a dozen that she feels are useful to some degree. These ranged from the Aquatic Sciences and Fisheries Abstracts to McGraw-Hill's Concise Encyclopedia of Technology.

Kosmin observed that most of the CD-ROM products useful to scientific and technical libraries are identical to, or subsets of, files available online. Since CD-ROM products are not updated as frequently as online systems and since currency is important to patrons of scientific and technical libraries, she believes that they will need to continue to use online services in conjunction with CD-ROM.

From an informal survey of tewnty-five colleagues, Kosmin found that a large majority favored the concept of a multi-purpose work station that could handle a wide variety of optical information formats, ranging from CD-ROM through video disks to laser cards and strips. They were unanimous in believing that it would be advantageous to have full text product offerings of core scientific and technical reference

tools on CD-ROM, arranged by subject category, on as few disks as possible and independent of publisher.

Substantial majorities of those surveyed expressed interest in having both pictures and prose displayed in their rightful textual context, in having mathematical symbols included, not described, and having the full text of government and other national specifications and standards, not just an index. Most also felt that having back issues of periodicals on CD-ROM would improve access.

Kosmin believes that optical media producers need to continue seeking to identify and reacting to the expectations of potential buyers. They need to accept some uncertainty, take some risks and make available with greater speed the many compact disk products that are needed by scientific and technical libraries and scientific and technical librarians. She concludes that "if scientific and technical librarians can identify specific products and find ways to let potential suppliers know what they want on disk, with an indication of their willingness to buy, that information might provide the extra push that is needed to convert ideas into market reality."

Michael Halperin of the Lippincott Library, Wharton School of Business, University of Pennsylvania, found, in a CD-ROM product called DATEXT, a solution for his problem of obtaining for analyses information on individual companies and industries, including company descriptions, price/earnings ratio, stock ownership, and so forth. The information his patrons need is available elsewhere, but it is scattered in newspapers, other periodicals, company reports, analysts' reports and financial services.

The material is also available online, Halperin noted, but one has to go from one database to another and understand finance systems to be able to pull the information together. DATEXT concentrates on the data, rather than databases, combining six separate files on four CD-ROM disks, grouped by broad industry categories, such as technology, and consumer goods. The system provides the ability to obtain both current and historical data of all kinds and manipulate it in many ways.

The file can be accessed, Halperin said, by company, by industry, or by a list of companies specified by the user. The system permits the creation of custom lists ranked by sixty different categories, such as

the creation of portfolios, downloading information to commonly used software (e.g., Lotus 1-2-3 and Multimate), and the insertion of additional information.

DATEXT is extremely easy to use, Halperin observed, with good help screens and only three or four minutes of instruction needed for a user to begin work. One of the problems with the system is that there is so much material, and students, in particular, have a tendency to want everything. Often, they try to bring in too much, overloading the PC memory. Halperin encourages users to down load material to a floppy disk, rather than print it out. To facilitate this, he sells floppy disks in the library.

Halperin pointed out that the students that use the system are sophisticated end users, who have had access to online systems for several years. DATEXT is part of the resource they have available. They will frequently go from DATEXT, using a gateway provided by the system, to Dow-Jones, to get the latest information.

The shortcomings of the system, Halperin said, are principally that it does not permit a global search on keywords and that the monthly update creates a problem with the currency of the information. While DATEXT is expensive, if the cost is divided by the hours of use, it works out to about $10 per hour, much cheaper than online systems. He is very positive about DATEXT and believes it is an innovative approach to retrieving financial data.

The laser disk exhibits, which included nineteen different vendors and a variety of products, remained open during and after the afternoon sessions. Those participating were: Autographics, BRS Information Technologies, Cambridge Scientific, Datext, Inc., Dialog Information Services, Disclosure, EBSCO Subscriptions Service, H.W. Wilson Company, Information Access Company, Informtion Handling Services, Library Systems & Services, Inc., Marcive, Inc., OCLC, Online Computer Systems, Inc., R.R. Bowker, SilverPlatter, Slater Hall Information Products, UMI Article Clearinghouse, and Video Laser Systems, Inc.